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Synthetic BoNT/A Peptides

Peptide Number	Sequence Position	Amino acid sequence
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L-Peptide 218-231		A V T L A H E L I H A G H R
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H_N-domain Peptides

N1	449-467	A L N D L C I K V N N W D L <u>F F S P S</u>
N2	463-481	<u>F F S P S</u> E D N F T N D L N <u>K G E E I</u>
N3	477-495	<u>K G E E I</u> T S D T N I E A A <u>E E N I S</u>
N4	491-509	<u>E E N I S</u> L D L I Q Q Y Y L <u>T F N F D</u>
N5	505-523	<u>T F N F D</u> N E P E N I S I E <u>N L S S D</u>
N6	519-537	<u>N L S S D</u> I I G Q L E L M P <u>N I E R F</u>
N7	533-551	<u>N I E R F</u> P N G K K Y E L D <u>K Y T M F</u>
N8	547-565	<u>K Y T M F</u> H Y L R A Q E F E <u>H G K S R</u>
N9	561-579	<u>H G K S R</u> I A L T N S V N E <u>A L L N P</u>
N10	575-593	<u>A L L N P</u> S R V Y T F F S S <u>D Y V K K</u>
N11	589-607	<u>D Y V K K</u> V N K A T E A A M <u>F L G W V</u>
N12	603-621	<u>F L G W V</u> E Q L V Y D F T D <u>E T S E V</u>
N13	617-635	<u>E T S E V</u> S T T D K I A D I <u>T I I I P</u>
N14	631-649	<u>T I I I P</u> Y I G P A L N I G <u>N M L Y K</u>
N15	645-663	<u>N M L Y K</u> D D F V G A L I F <u>S G A V I</u>
N16	659-677	<u>S G A V I</u> L L E F I P E I A <u>I P V L G</u>
N17	673-691	<u>I P V L G</u> T F A L V S Y I A <u>N K V L T</u>
N18	687-705	<u>N K V L T</u> V Q T I D N A L S <u>K R N E K</u>
N19	701-719	<u>K R N E K</u> W D E V Y K Y I V <u>T N W L A</u>
N20	715-733	<u>T N W L A</u> K V N T Q I D L I <u>R K K M K</u>
N21	729-747	<u>R K K M K</u> E A L E N Q A E A <u>T K A I I</u>
N22	743-761	<u>T K A I I</u> N Y Q Y N Q Y T E <u>E E K N N</u>
N23	757-775	<u>E E K N N</u> I N F N I D D L S <u>S K L N E</u>
N24	771-789	<u>S K L N E</u> S I N K A M I N I <u>N K F L N</u>
N25	785-803	<u>N K F L N</u> Q C S V S Y L M N <u>S M I P Y</u>
N26	799-817	<u>S M I P Y</u> G V K R L E D F D <u>A S L K D</u>
N27	813-831	<u>A S L K D</u> A L L K Y I Y D N <u>R G T L I</u>
N28	827-845	<u>R G T L I</u> G Q V D R L K D K <u>V N N T L</u>
N29	841-859	<u>V N N T L</u> S T D I P F Q L S <u>K Y V D N</u>

FIGURE 1A

H_C-domain peptides

C1	855-873	<u>K Y V D N</u> Q R L L S T F T E <u>Y I K N I</u>
C2	869-887	<u>Y I K N I</u> I N T S I L N L R <u>Y E S N H</u>
C3	883-901	<u>Y E S N H</u> L I D L S R Y A S <u>K I N I G</u>
C4	897-915	<u>K I N I G</u> S K V N F D P I D <u>K N Q I Q</u>
C5	911-929	<u>K N Q I Q</u> L F N L E S S K I <u>E V I L K</u>
C6	925-943	<u>E V I L K</u> N A I V Y N S M Y <u>E N F S T</u>
C7	939-957	<u>E N F S T</u> S F W I R I P K Y <u>F N S I S</u>
C8	953-971	<u>F N S I S</u> L N N E Y T I I N <u>C M E N N</u>
C9	967-985	<u>C M E N N</u> S G W K V S L N Y <u>G E I I W</u>
C10	981-999	<u>G E I I W</u> T L Q D T Q E I K <u>Q R V V F</u>
C11	995-1013	<u>Q R V V F</u> K Y S Q M I N I S <u>D Y I N R</u>
C12	1009-1027	<u>D Y I N R</u> W I F V T I T N N <u>R L N N S</u>
C13	1023-1041	<u>R L N N S</u> K I Y I N G R L I <u>D Q K P I</u>
C14	1037-1055	<u>D Q K P I</u> S N L G N I H A S <u>N N I M F</u>
C15	1051-1069	<u>N N I M F</u> K L D G C R D T H <u>R Y I W I</u>
C16	1065-1083	<u>R Y I W I</u> K Y F N L F D K E <u>L N E K E</u>
C17	1079-1097	<u>L N E K E</u> I K D L Y D N Q S <u>N S G I L</u>
C18	1093-1111	<u>N S G I L</u> K D F W G D Y L Q <u>Y D K P Y</u>
C19	1107-1125	<u>Y D K P Y</u> Y M L N L Y D P N <u>K Y V D V</u>
C20	1121-1139	<u>K Y V D V</u> N N V G I R G Y M <u>Y L K G P</u>
C21	1135-1153	<u>Y L K G P</u> R G S V M T T N I <u>Y L N S S</u>
C22	1149-1167	<u>Y L N S S</u> L Y R G T K F I I <u>K K Y A S</u>
C23	1163-1181	<u>K K Y A S</u> G N K D N I V R N <u>N D R V Y</u>
C24	1177-1195	<u>N D R V Y</u> I N V V V K N K E <u>Y R L A T</u>
C25	1191-1209	<u>Y R L A T</u> N A S Q A G V E K <u>I L S A L</u>
C26	1205-1223	<u>I L S A L</u> E I P D V G N L S <u>Q V V V M</u>
C27	1219-1237	<u>Q V V V M</u> K S K N D Q G I T <u>N K C K M</u>
C28	1233-1251	<u>N K C K M</u> N L Q D N N G N D <u>I G F I G</u>
C29	1247-1265	<u>I G F I G</u> F H Q F N N I A K <u>L V A S N</u>
C30	1261-1279	<u>L V A S N</u> W Y N R Q I E R S <u>S R T L G</u>
C31	1275-1296	<u>S R T L G</u> C S W E F I P V D D G W G E R P L

FIGURE 1B

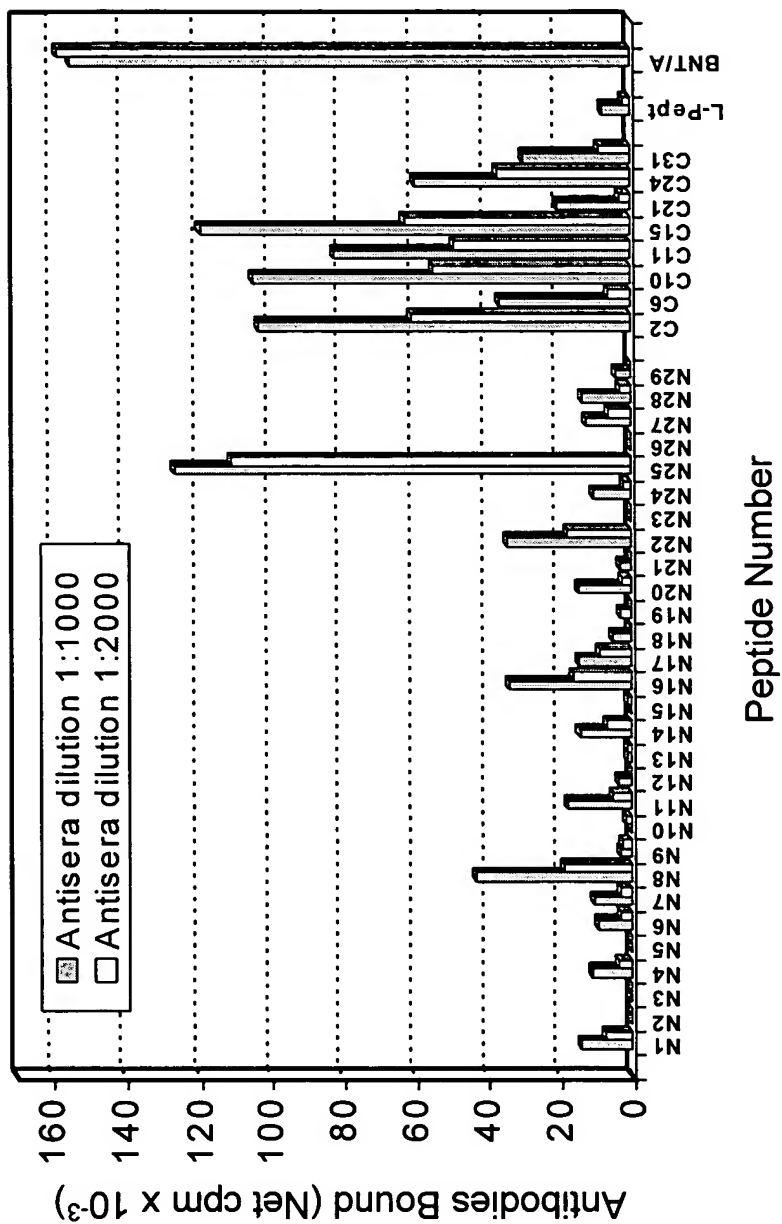


FIGURE 2

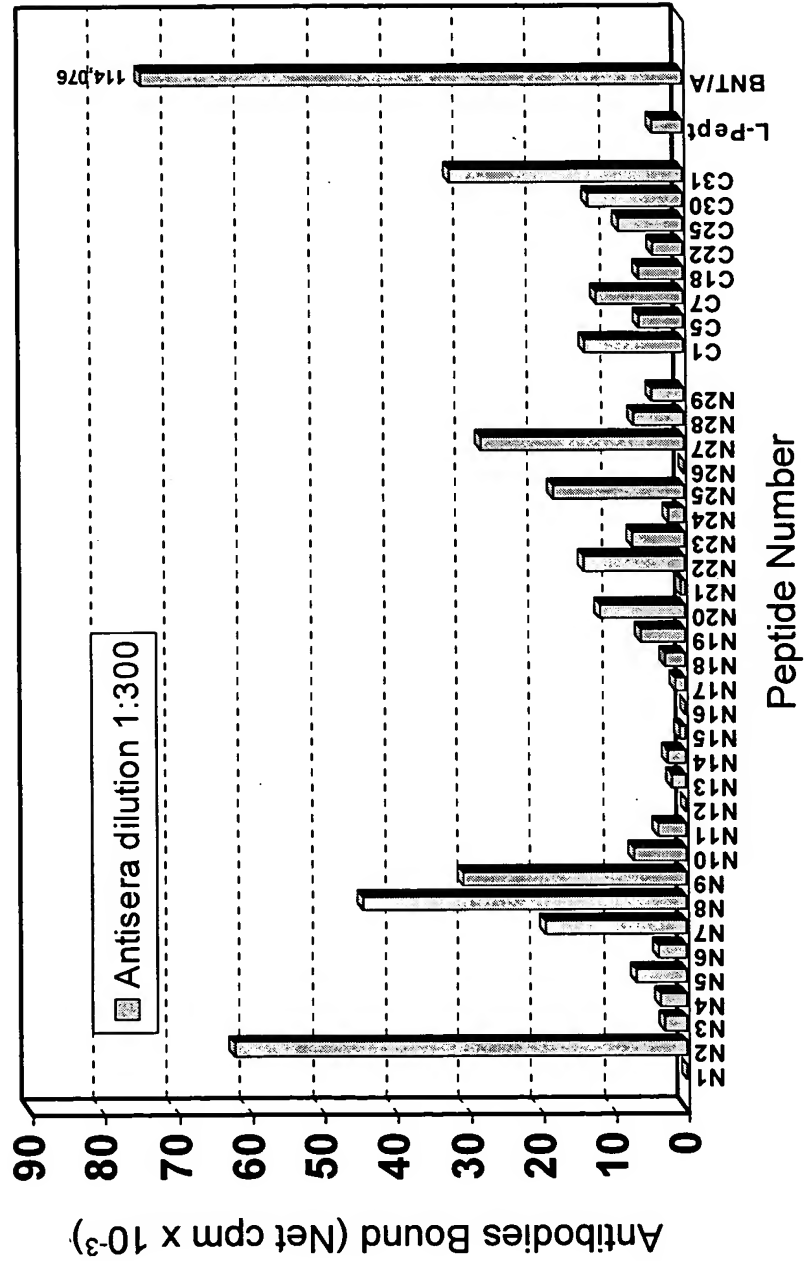


FIGURE 3

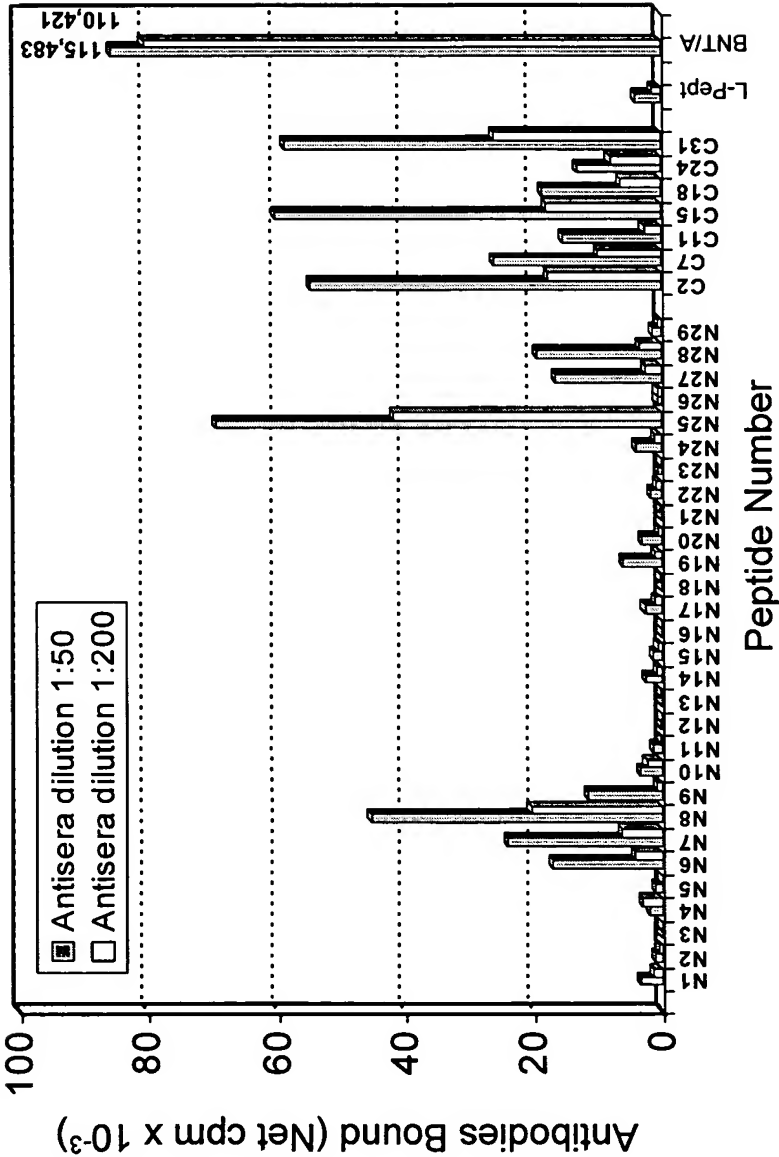


FIGURE 4

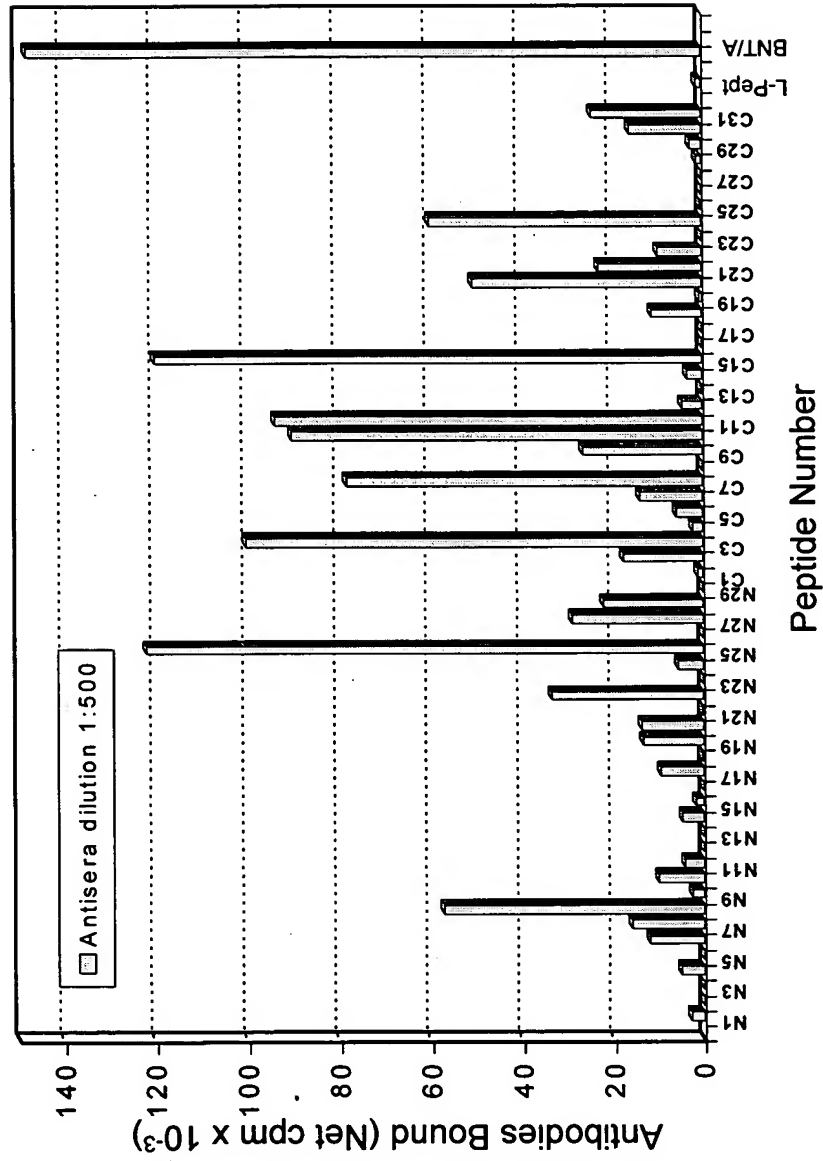


FIGURE 5

H_N domain of BoNT/A (Clostridium botulinum) (Residues 449-859 of SEQ ID NO:1)

A L N D L C I K V N N W D L F F S P S E D N F T N D L N K G E E I T S
D T N I E A A E E N I S L D L I Q Q Y Y L T F N F D N E P E N I S I E
N L S S D I I G Q L E L M P N I E R F N I E R F P N G K K Y E L D K Y
T M F H Y L R A Q E F E H G K S R I A L T N S V N E A L L N P S R V Y
T F F S S D Y V K K V N K A T E A A M F L G W V E Q L V Y D F T D E T
S E V S T T D K I A D I T I I I P Y I G P A L N I G N M L Y K D D F V
G A L I F S G A V I L L E F I P E I A I P V L G T F A L V S Y I A N K
V L T V Q T I D N A L S K R N E K W D E V Y K Y I V T N W L A K V N T
Q I D L I R K K M K E A L E N Q A E A T K A I N Y Q Y N Q Y T E E E
K N N I N F N I D D L S S K L N E S I N K A M I N I N K F L N Q C S V
S Y L M N S M I P Y G V K R L E D F D A S L K D A L L K Y I Y D N R G T
L I G Q V D R L K D K V N N T L S T D I P F Q L S K Y V D N

H_C domain of BoNT/A (Clostridium botulinum) (Residues 855-1296 of SEQ ID NO:1)

K Y V D N Q R L L S T F T E Y I K N I I N T S I L N L R Y E S N
H L I D L S R Y A S K I N I G S K V N F D P I D K N Q I Q L F N
L E S S K I E V I L K N A I V Y N S M Y E N F S T S F W I R I P
K Y F N S I S L N N E Y T I I N C M E N N S G W K V S L N Y G E
I I W T L Q D T Q E I K Q R V V F K Y S Q M I N I S D Y I N R W
I F V T I T N N R L N N S K I Y I N G R L I D Q K P I S N L G N
I H A S N N I M F K L D G C R D T H R Y I W I K Y F N L F D K E
L N E K E I K D L Y D N Q S N S G I L K D F W G D Y L Q Y D K P
Y Y M L N L Y D P N K Y V D V N N V G I R G Y M Y L K G P R G S
V M T T N I Y L N S S L Y R G T K F I I K K Y A S G N K D N I V
R N N D R V Y I N V V V K N K E Y R L A T N A S Q A G V E K I L
S A L E I P D V G N L S Q V V V M K S K N D Q G I T N K C K M N
L Q D N N G N D I G F I G F H Q F N N I A K L V A S N W Y N R Q I
E R S S R T L G C S W E F I P V D D G W G E R P L

L-Peptide (amino acids 218-231 of SEQ ID NO:1)

A V T L A H E L I H A G H R

Amino acids 731 to 787 of BoNT/E (SEQ ID NO:4)

KNELTNKYDIKQIENELNQKVSIAMNNIDRFLTSSISYLMKLINEVKINKLREYDE

FIGURE 6

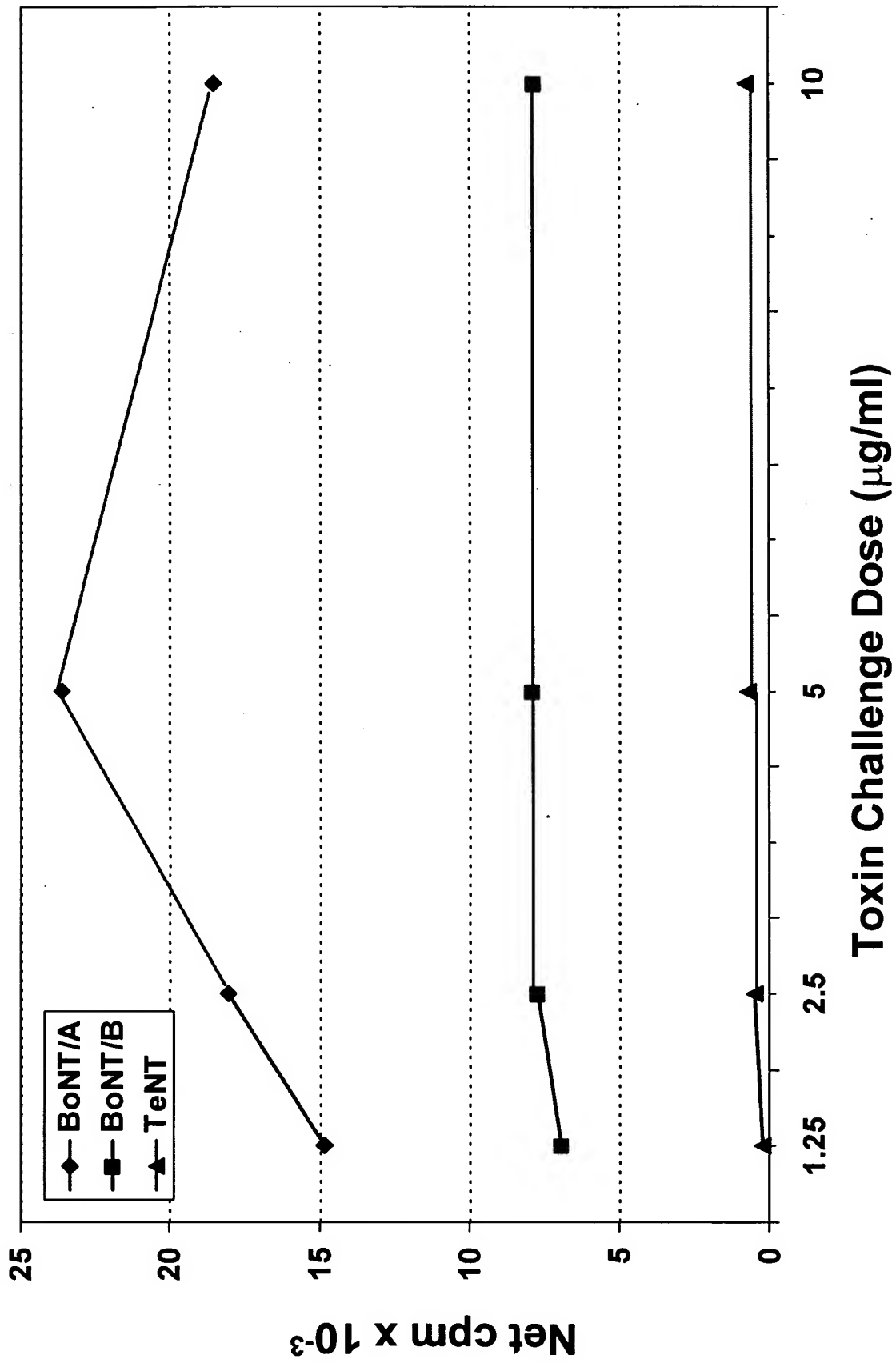


FIGURE 7

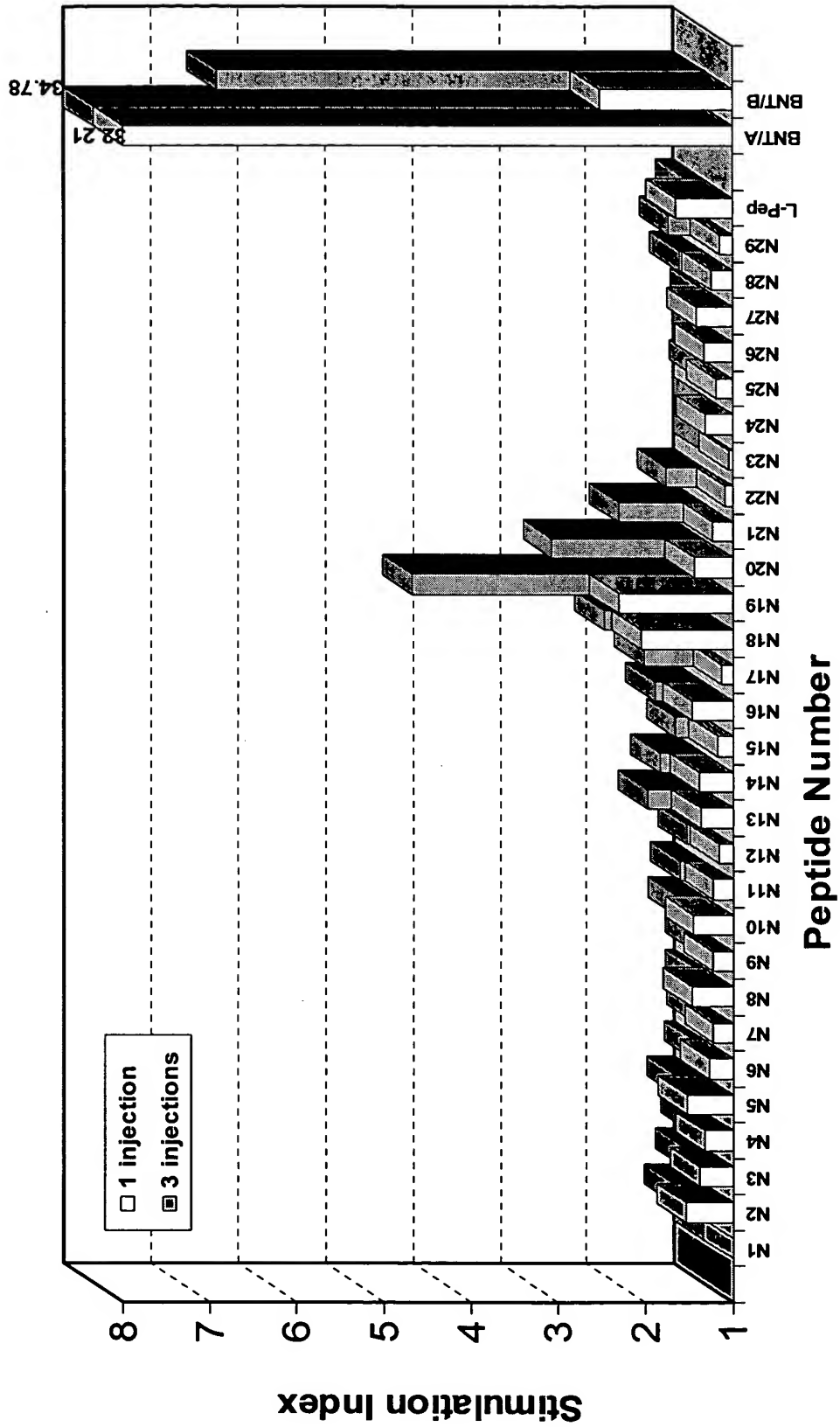


FIGURE 8

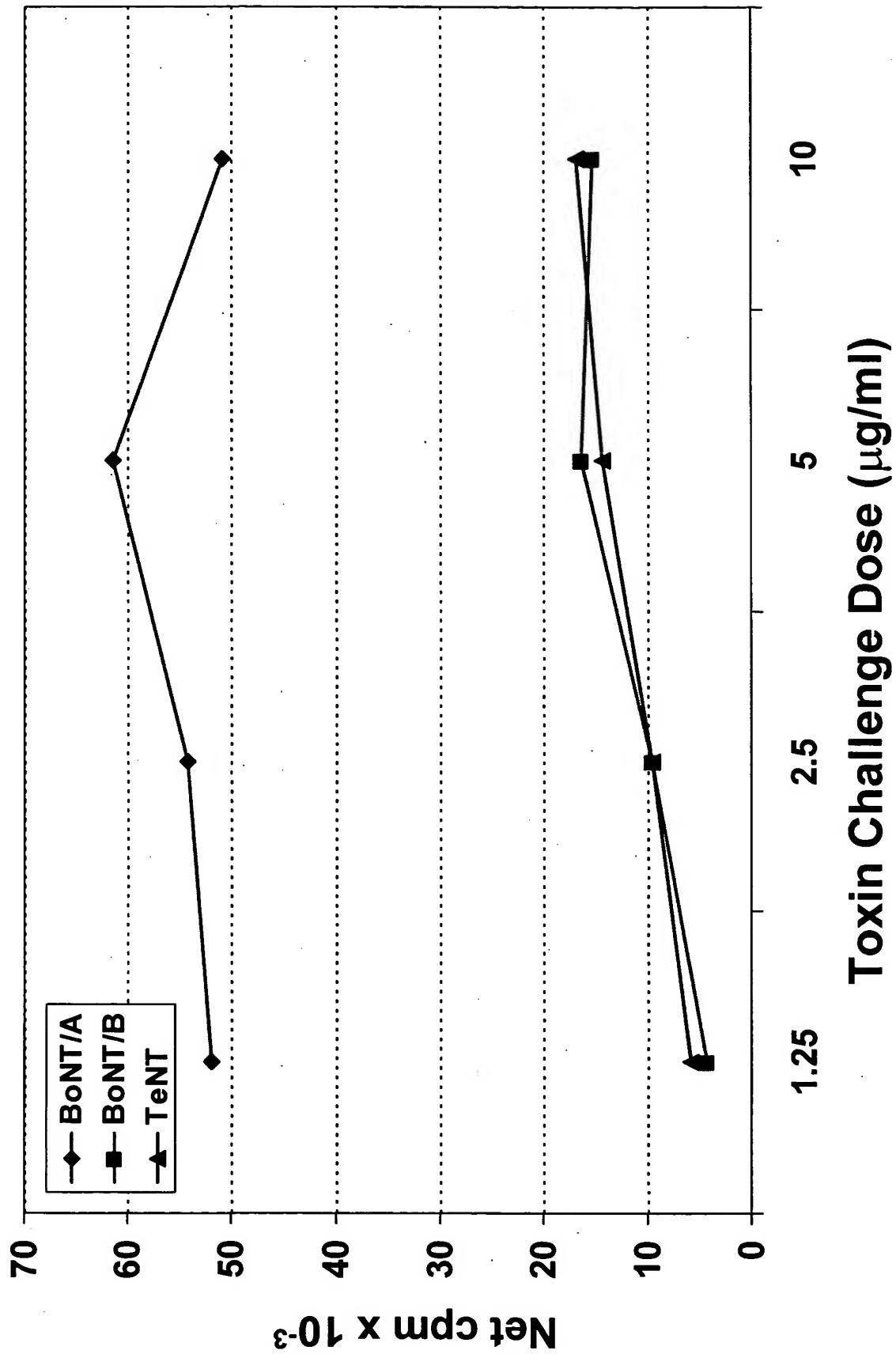


FIGURE 9

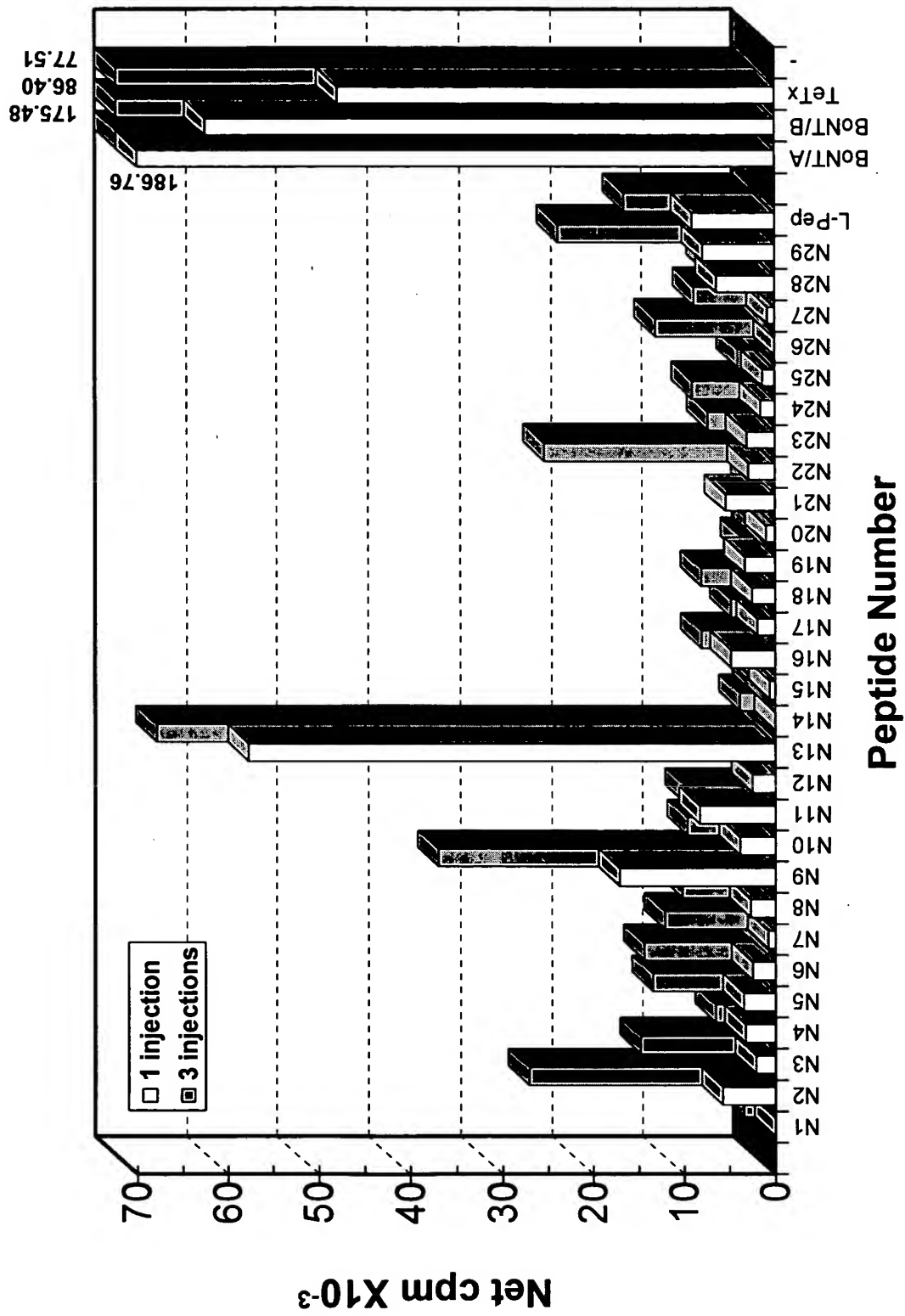


FIGURE 10

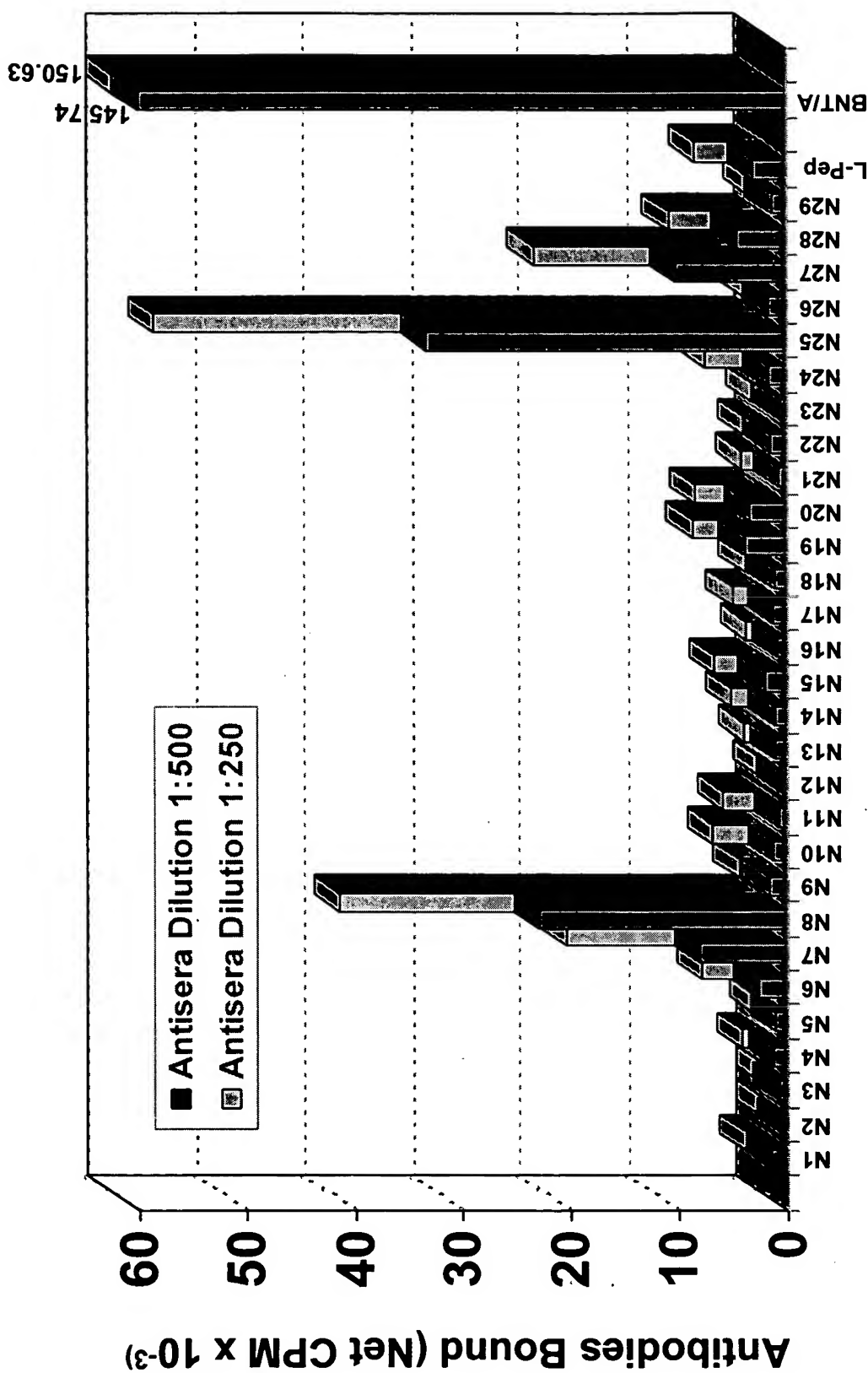


FIGURE 11

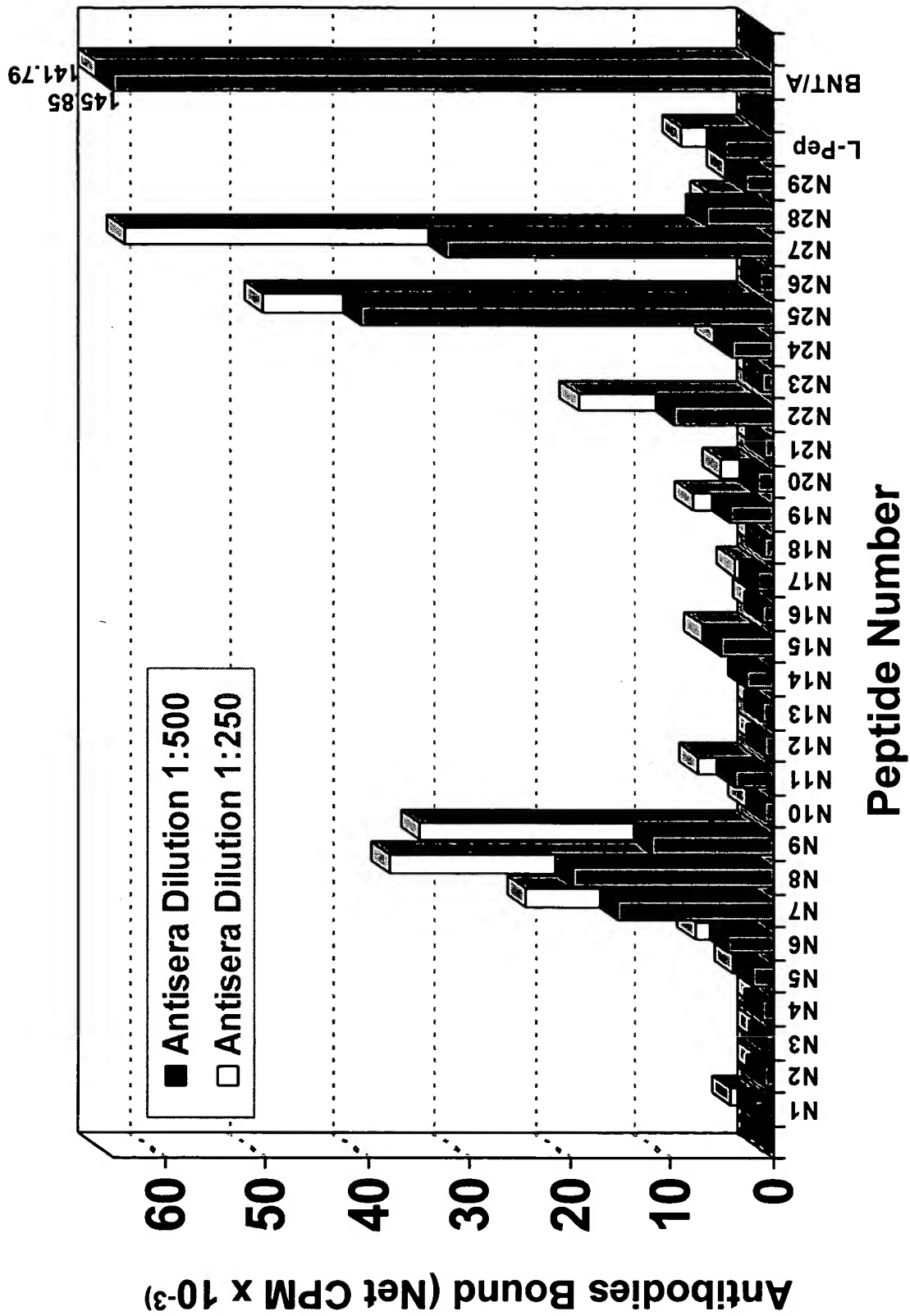


FIGURE 12

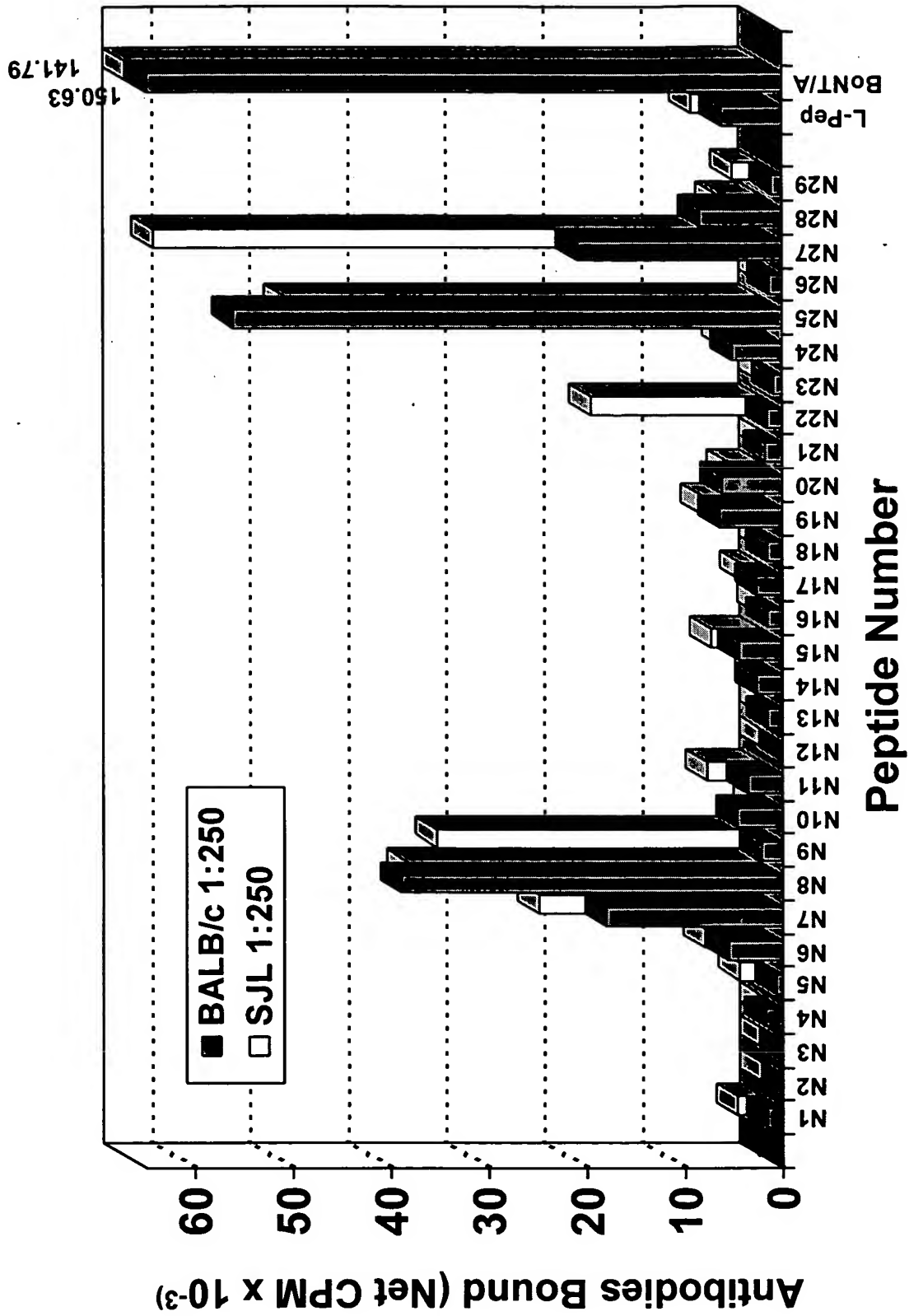


FIGURE 13

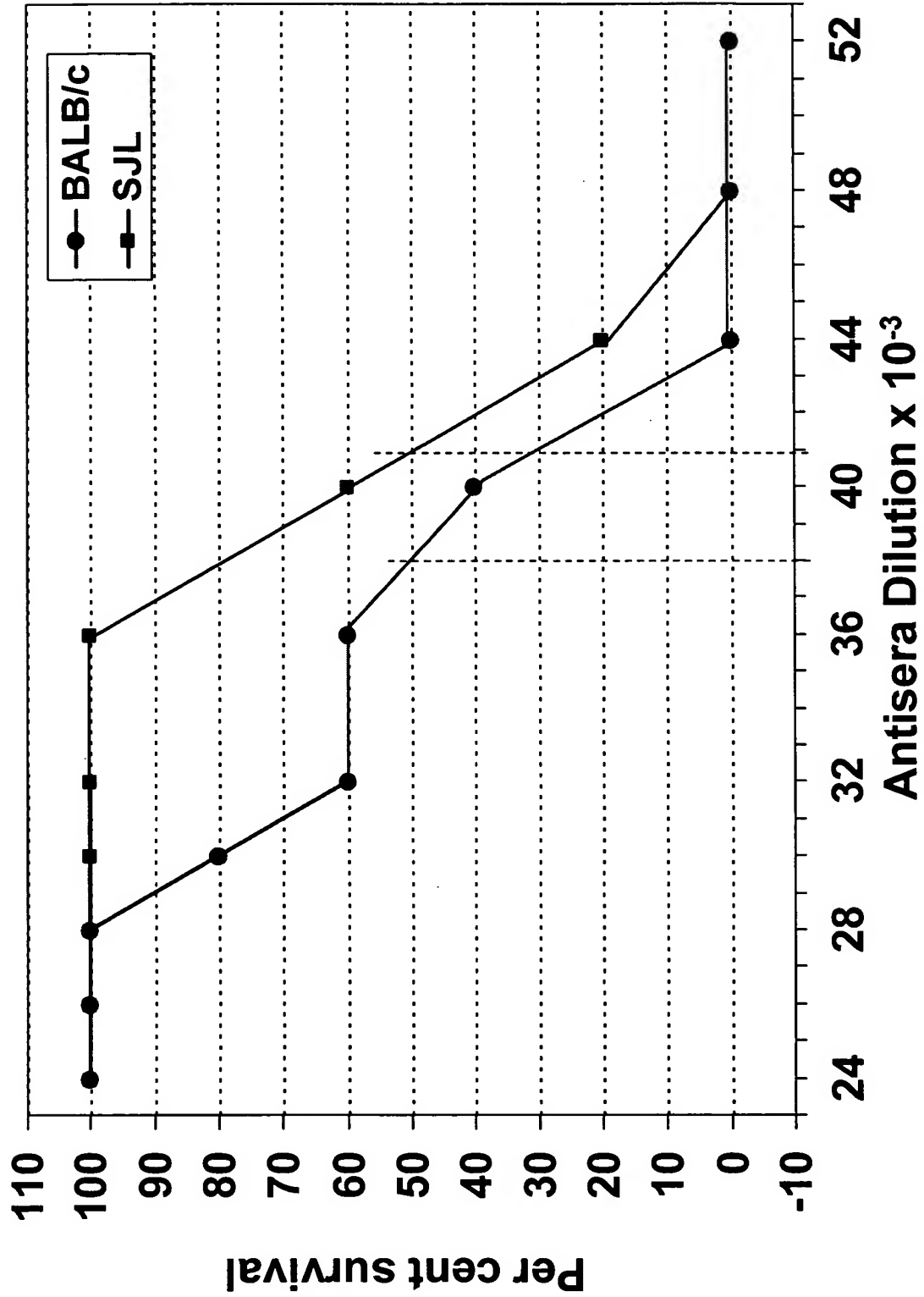


FIGURE 14

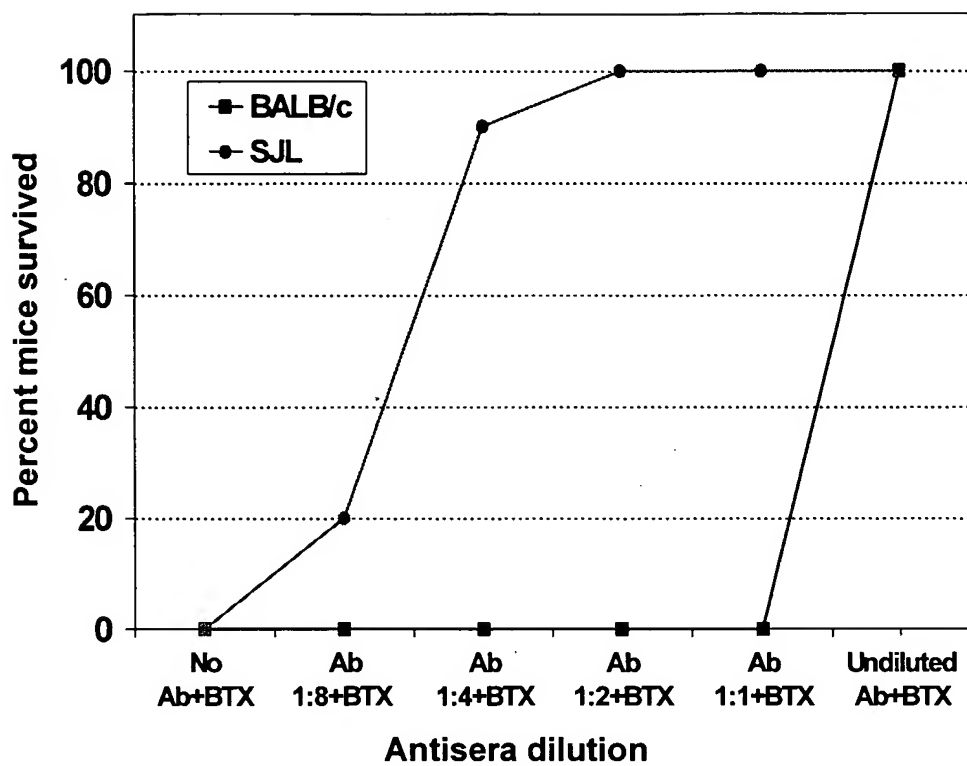


FIGURE 15

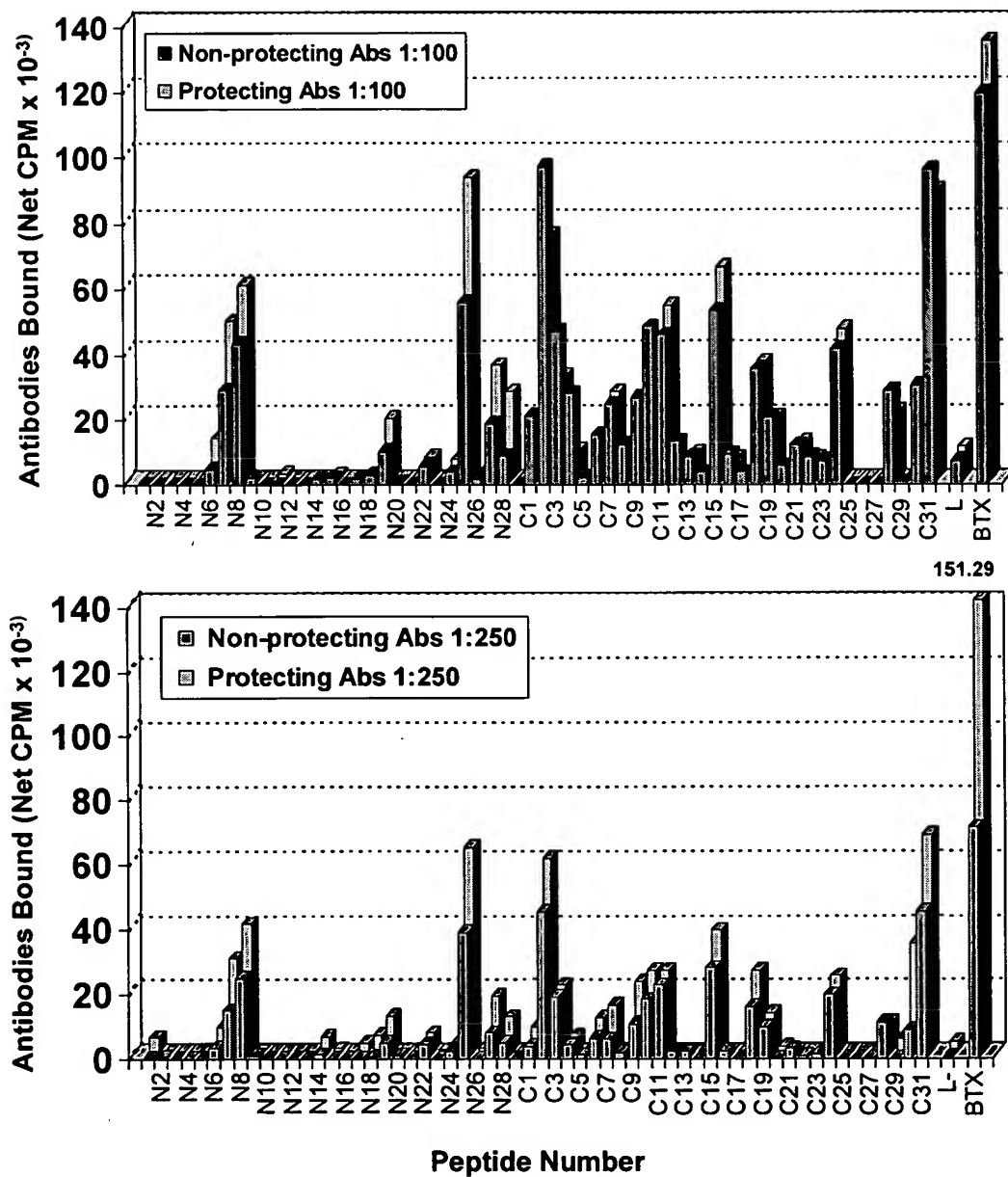


FIGURE 16

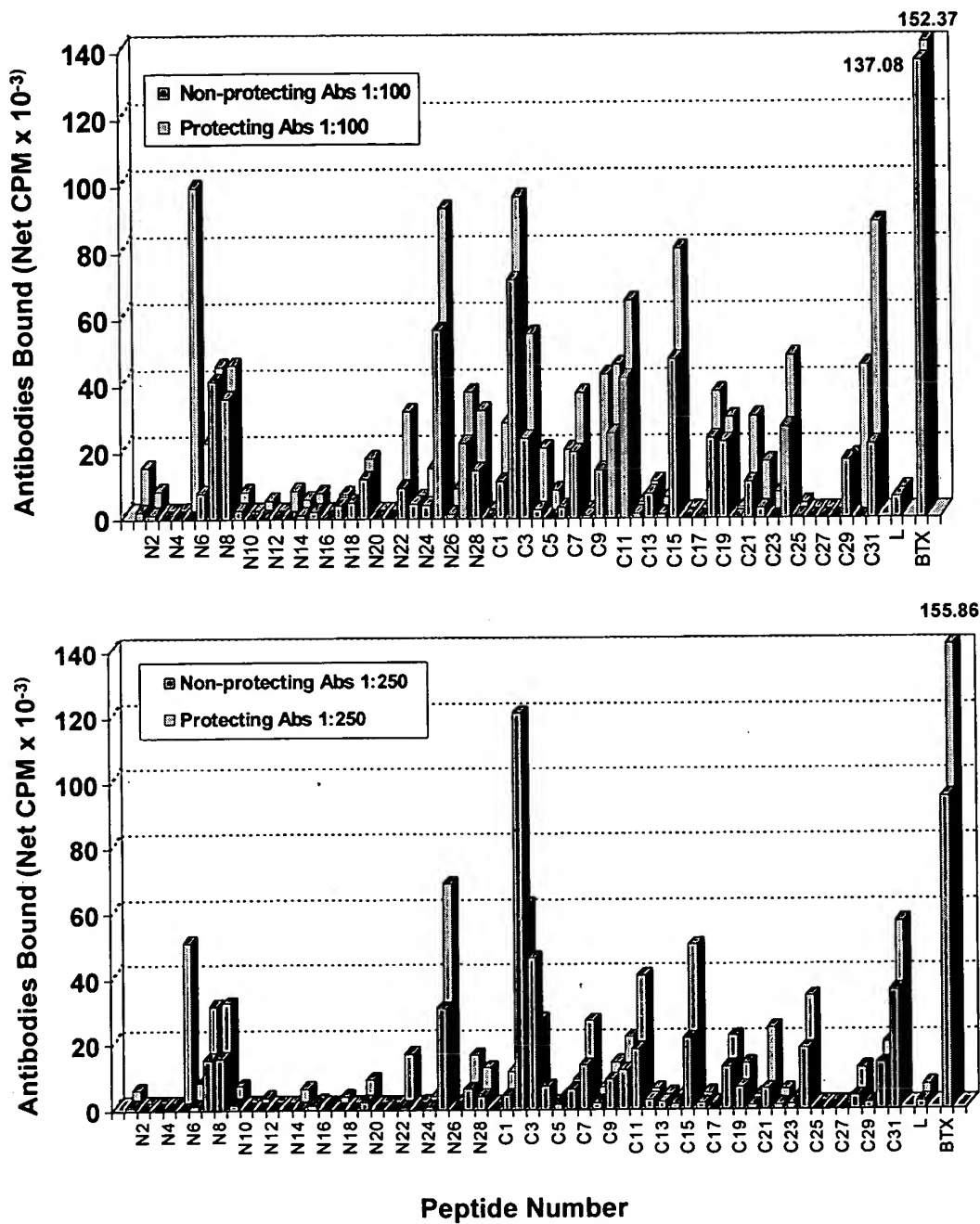


FIGURE 17

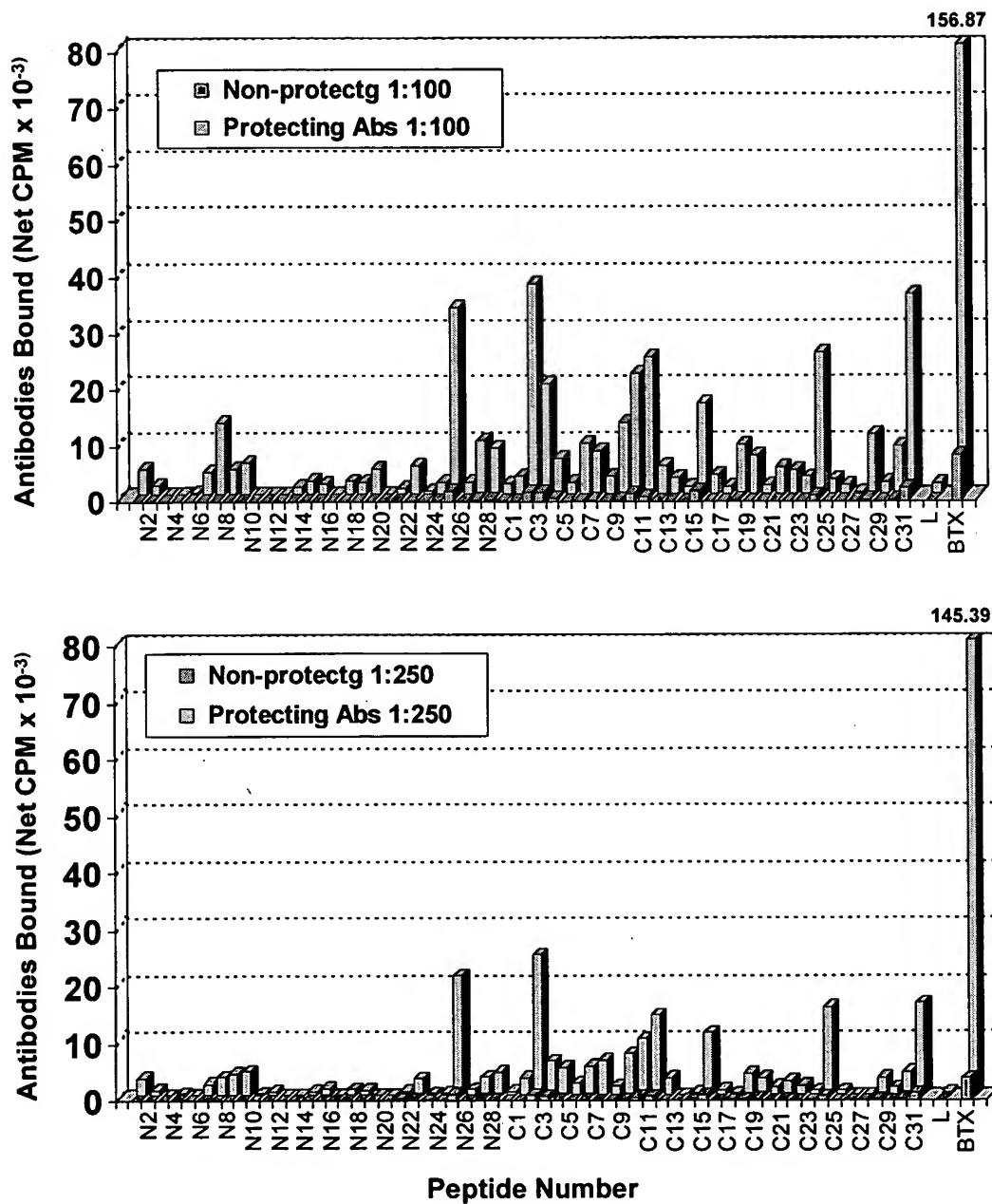


FIGURE 18

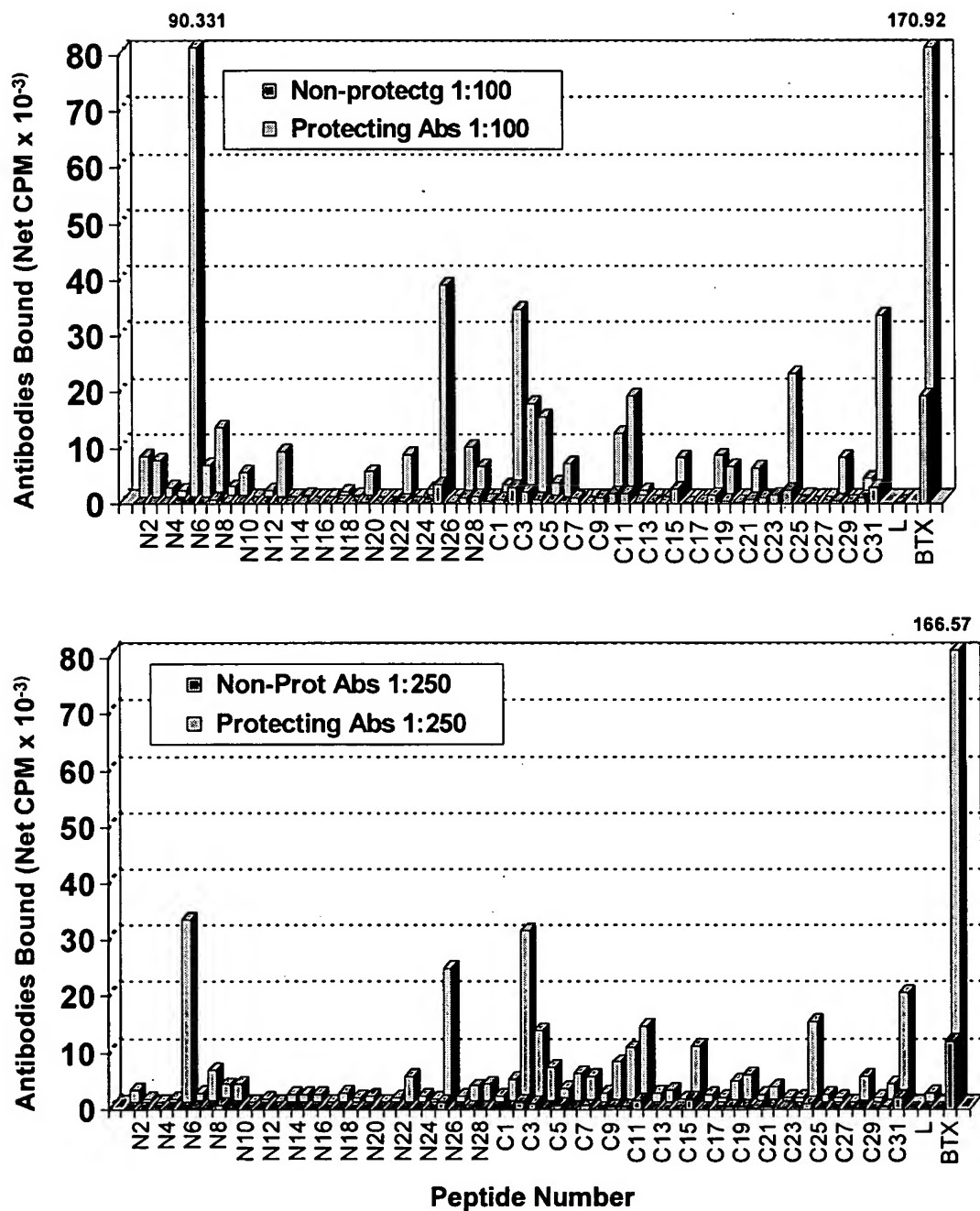


FIGURE 19

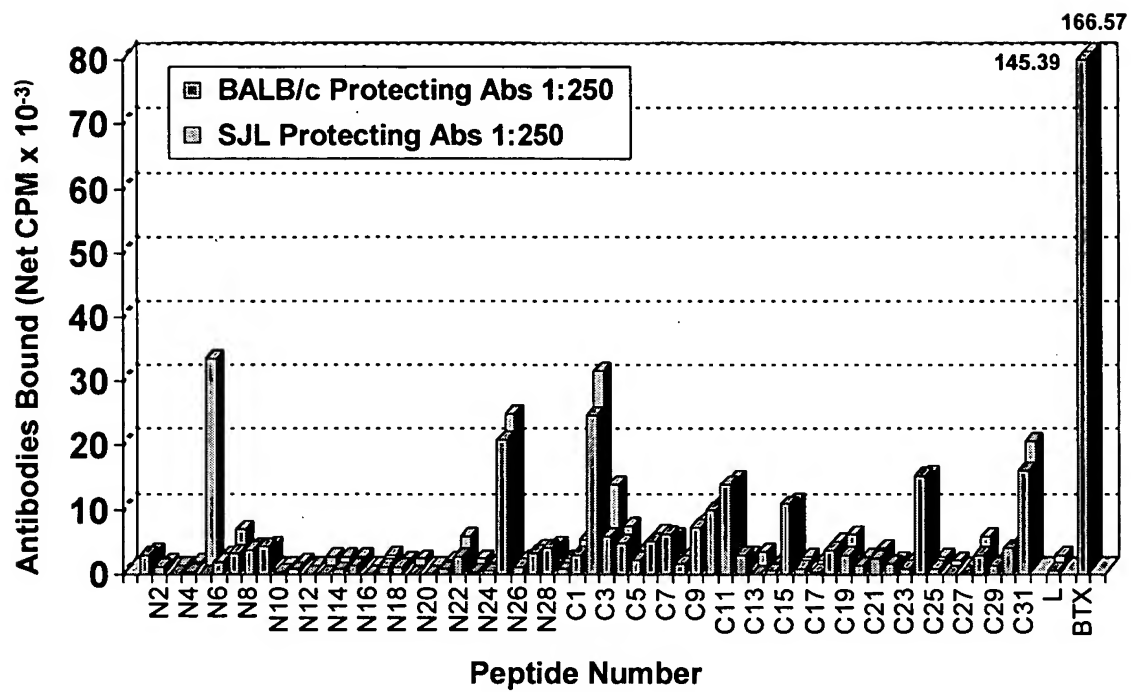


FIGURE 20

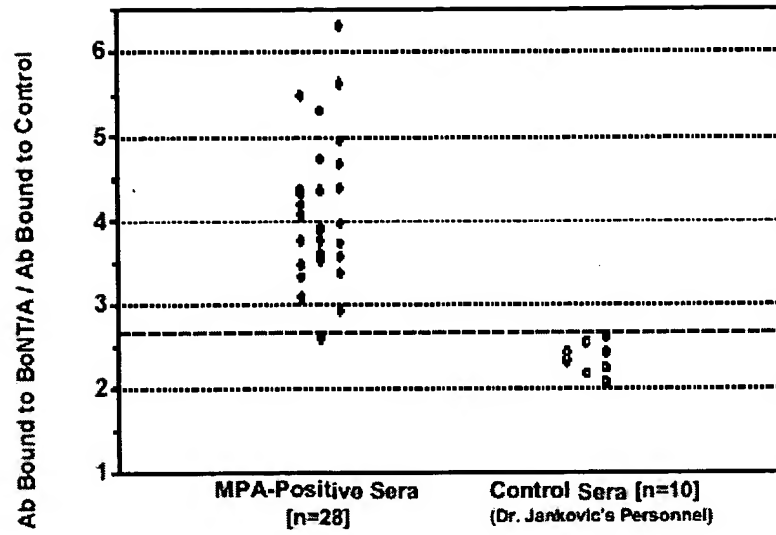


FIGURE 21

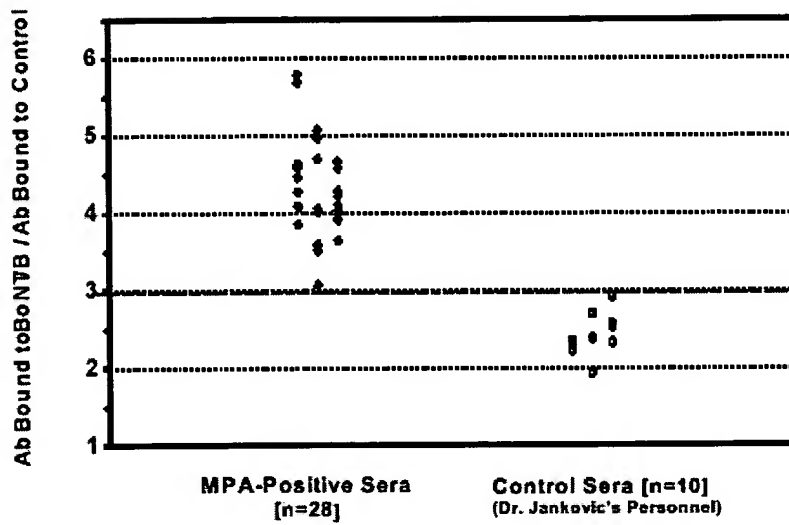


FIGURE 22

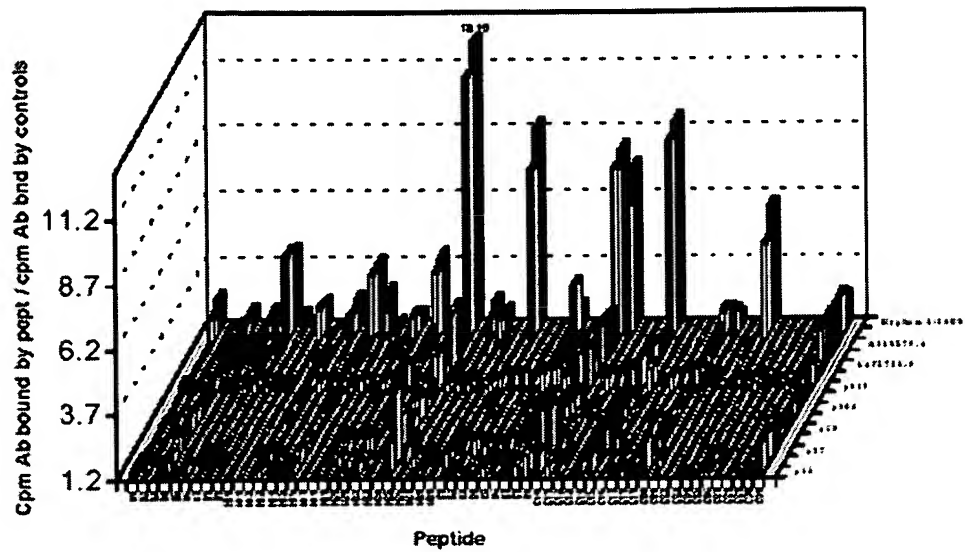


FIGURE 23

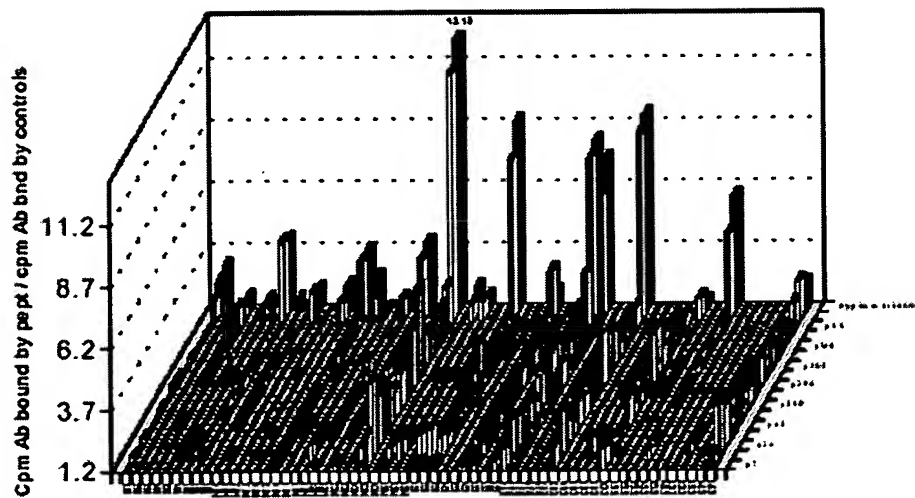


FIGURE 24

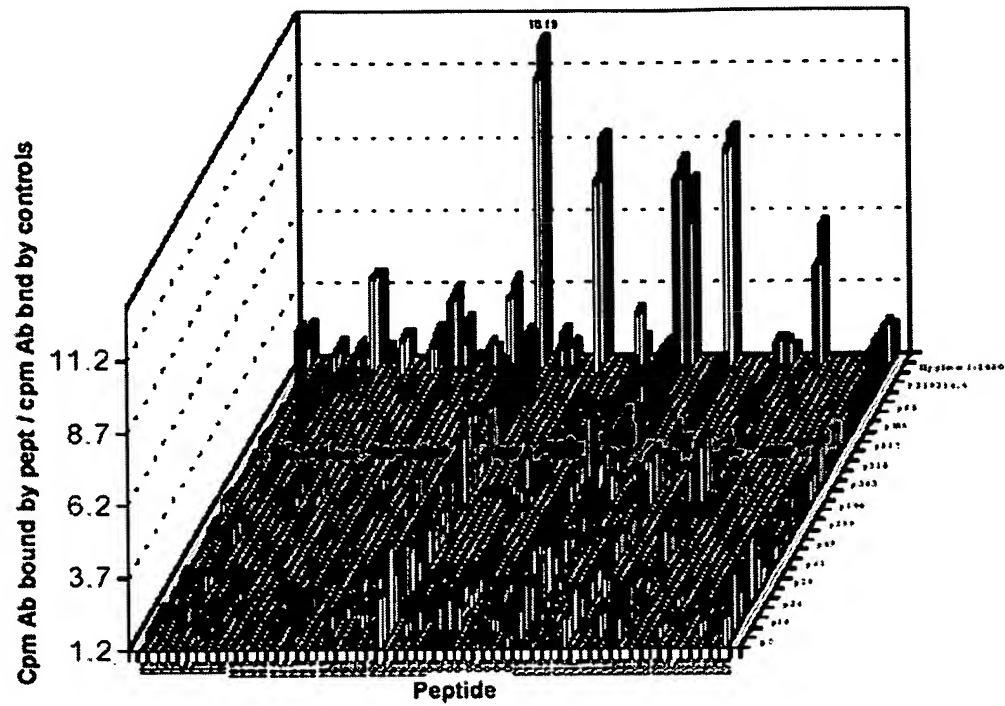


FIGURE 25

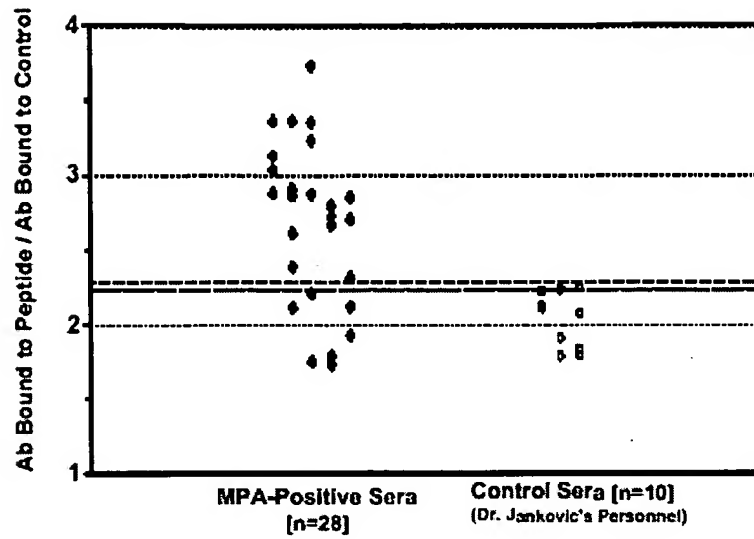


FIGURE 26

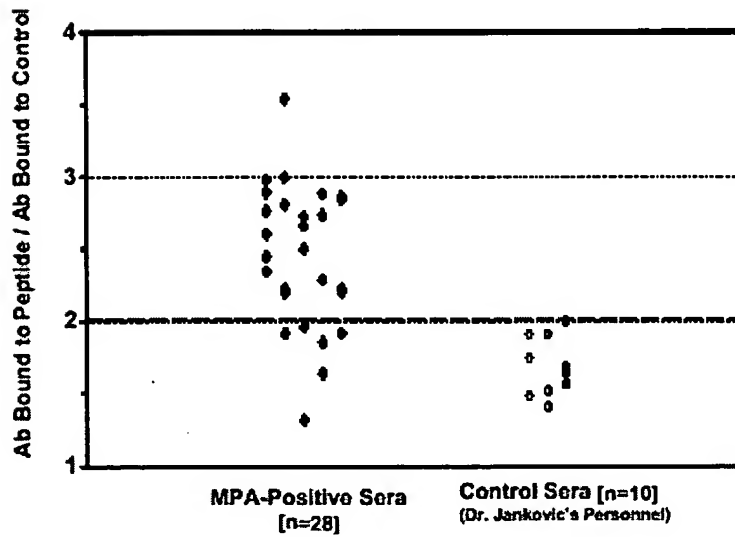


FIGURE 27

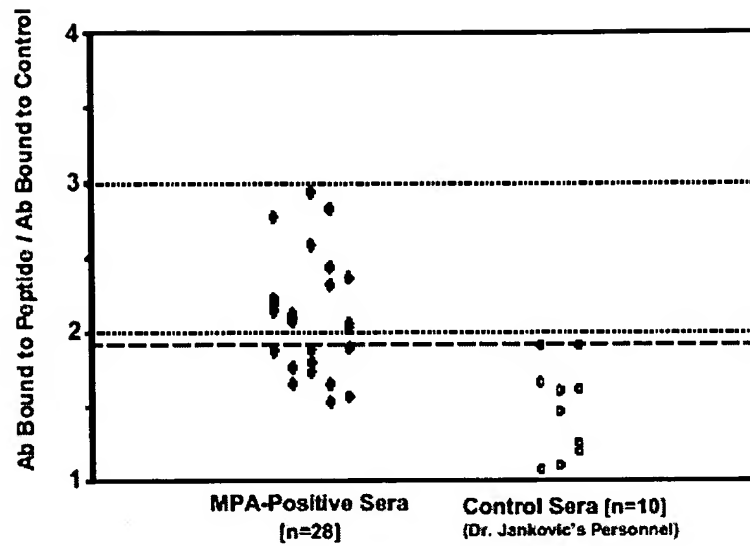


FIGURE 28

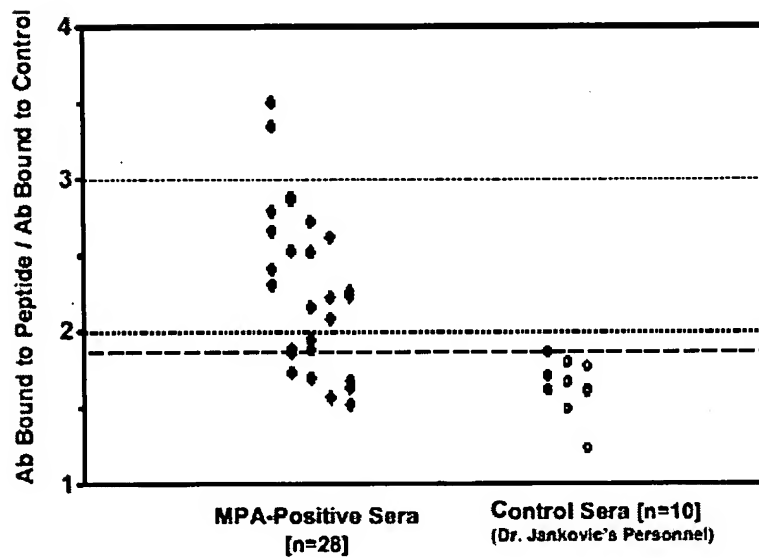


FIGURE 29

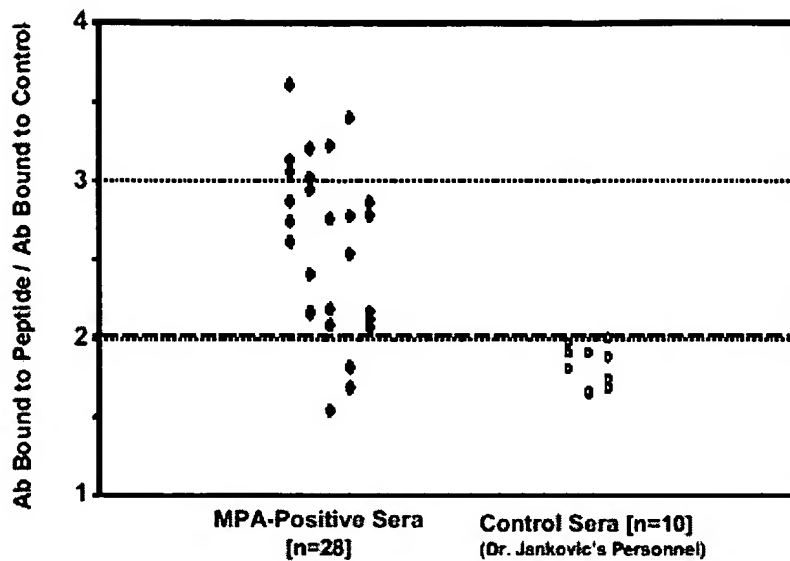


FIGURE 30

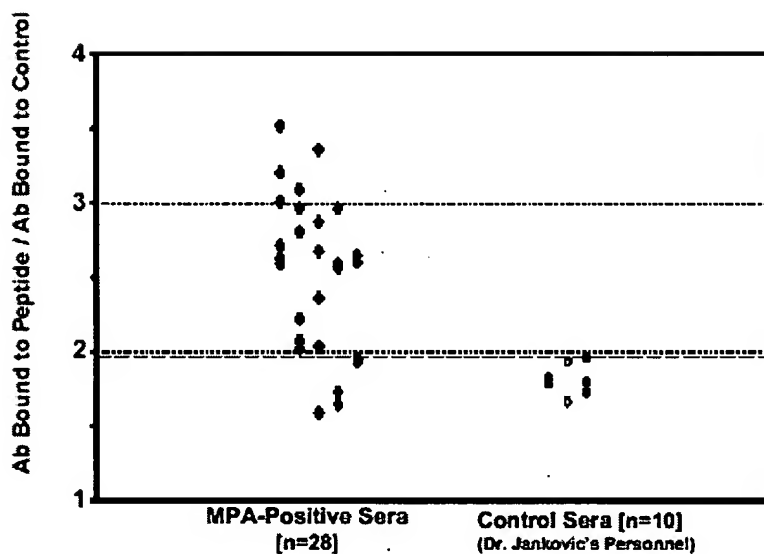


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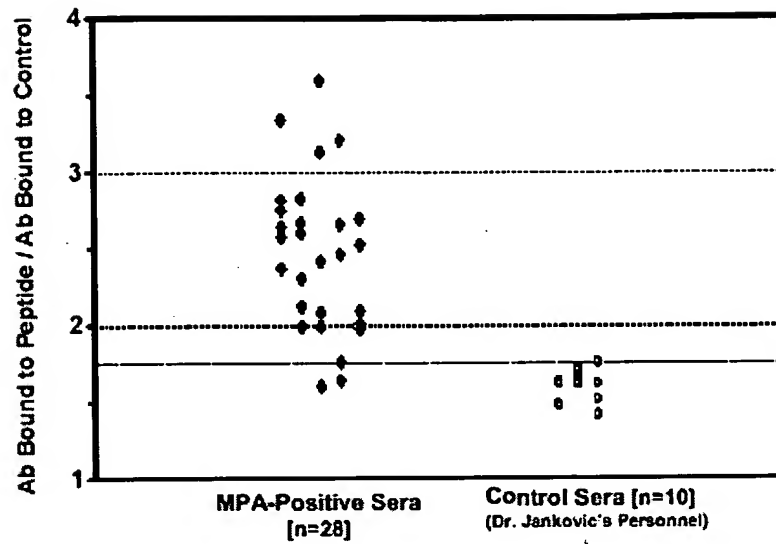


FIGURE 32

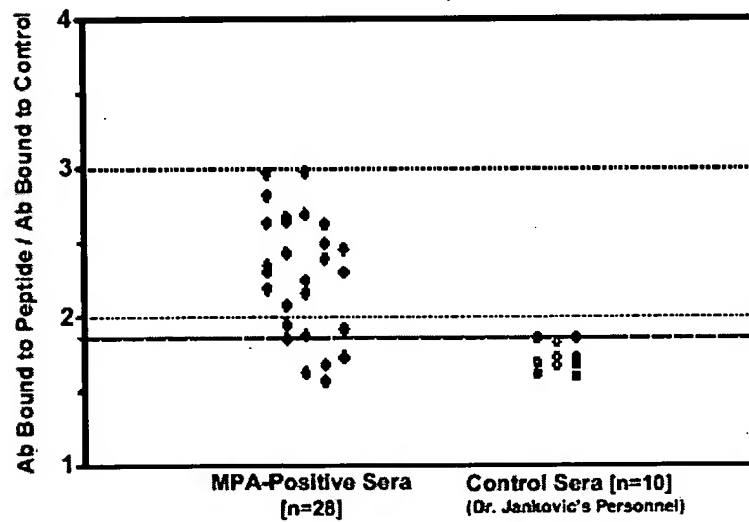


FIGURE 33